

No.J-11015/241/2006-IA.II (M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O. Complex, Lodi Road,
New Delhi - 110 003

Dated the 17th May, 2007

To,

M/s Hindalco Industries Ltd.
(Mines Division),
Court Road,
P.O.-Lohardaga,
District Lohardaga
Jharkhand-835 302

Subject: Orsa Bauxite Mining Project of M/s Hindalco Industries Limited
located in Village Orsa, Tehsil Mahuadanr, District Latehar,
Jharkhand - environmental clearance reg.

Sir,

This has reference to your letter No. HIL/E&Q/Env./553 dated 04.08.2006 and subsequent letter dated 05.10.2006 on the subject mentioned above. It has been noted that the proposal is for grant of environmental clearance under the provisions of EIA Notification, 1994, for opening of a new mine for production of 2,00,000tonnes per annum(TPA) of bauxite ore for captive use for Renukoot Alumina Refinery, Uttar Pradesh. It is an existing mining lease, yet to be operated. The total mine lease area of the project is 196.36ha, out of which 164.71ha is an agricultural land (Riyati land) and remaining 31.65ha is Government wasteland (22.25ha is wasteland, 7.9ha is roads and 1.5ha is infrastructure). No forestland is involved. Area proposed for mining is 155.0ha, an area of 1.5ha is kept for infrastructure, 7.9ha for roads and 31.96ha is others(future mining). The Mahuandanr Wolf Sanctuary is located at a distance of 2.6km. from the mine lease. There are fourteen Protected Forests and one Reserve Forest in the buffer zone of the mine. There is no population in the core zone, therefore, displacement of population and R&R is not involved. The targeted production capacity of the mine is 2,00,000TPA of bauxite ore production and life of mine is 25years. Working will be open cast by semi-mechanised method involving blasting. Mining will be done in small blocks such that at a given point of time maximum of 1.2 to 2.0 ha of land will be under active mining. The topography of the area is a plateau top at an elevation of 1117m AMSL. Ultimate working depth of the mine will be 16m from the top of the plateau (1101m AMSL). Ground water level is at 1017m AMSL. Working will not intersect ground water table. Peak water requirement of the project is 34m³ per day, which will be met from nearby nallah. It is estimated that 1,90,760m³ per year of over burden will be generated which will be kept as temporary dump for initial year. Concurrent

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backfilling will start from the 2nd year onwards and there will be no external over burden dump at the end of the mine life. The entire excavated area of 155ha will be reclaimed, out of which 131ha land will be returned to raiyats for agriculture purpose and in the remaining area of 24ha plantation will be raised. NOC from Jharkhand State Pollution Control Board obtained on 24.07.2006 for production of two Lakh TPA of bauxite ore involving lease area of 196.36ha. Public hearing of the project held on 06.03.2006. The mining plan of the project approved by the Indian Bureau of Mines (IBM) on 11.05.2005 for lease area of 309.19ha. The capital cost of the project is Rs.430.0Lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with Section 12 of the EIA Notification 2006 read with para 2.1.1(i) of the Circular No.J-11013/41/2006-IA.II(I) dated 13.10.2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Orsa Bauxite Mining Project of M/s Hindalco Industries Limited for an annual production capacity of 2,00,000tonnes(0.2million tonnes) of bauxite ore production by opencast semi-mechanised method involving total lease area of 196.36ha subject to implementation of the following conditions and environmental safeguards.

A. Specific conditions

- (i) Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.
- (ii) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority.
- (iii) All the conditions stipulated by SPCB in their NOC shall be effectively implemented.
- (iv) The environmental clearance is subject to approval of the State Landuse Department, Government of Jharkhand for diversion of agricultural land for non-agricultural use.
- (v) Mining shall not intersect groundwater table. The mine working shall be restricted to above ground water table. Prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained for mining below water table.
- (vi) The project proponent shall ensure that mining shall be carried out in small blocks and at a given point of time active mining area shall not exceed 2.0ha.

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- (vii) The project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operations.
- (viii) Top soil, if any, shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.
- (ix) The over burden generated during the initial year shall be kept as temporary dump. Concurrent backfilling shall start from the 2nd year onwards and there shall be no external over burden dump at the end of the mine life.
- (x) The entire excavated area of 155ha shall be reclaimed, out of which 131ha land shall be returned to raiyats for agriculture purpose and in the remaining area of 24ha plantation shall be raised. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its regional office located at Bhubneshwar on six monthly basis.
- (xi) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly.

Garland drain (size, gradient and length) shall be constructed for mine pit and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

- (xii) Dimension of the retaining wall at the OB benches within the mine to check run-off and siltation should be based on the rain fall data.
- (xiii) Plantation shall be raised in an area of 24.0ha including a green belt of adequate width by planting the native species around the ML area, roads, reclaimed area etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 1500 plants per ha.
- (xiv) The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.


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- (xv) Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year – pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment and Forests, its Regional Office located at Bhubneshwar, Central Ground Water Authority and Regional Director, Central Ground Water Board.
- (xvi) Prior permission from the competent authority should be obtained for drawal of water from the surface water bodies.
- (xvii) Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.
- (xviii) Drills should either be operated with dust extractors or should be equipped with water injection system.
- (xix) Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.
- (xx) Consent to operate should be obtained from SPCB prior to start of production from the mine.
- (xxi) Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and wastewater generated from mining operations.
- (xxii) The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as leopard, Indian wolf, Indian elephant, Indian small civet, python etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional Office within 3 months.
- (xxiii) A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.

B. General conditions

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.
- (iii) Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO₂ and NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.
- (iv) Data on ambient air quality (RPM, SPM, SO₂ and NO_x) should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar and the State Pollution Control Board / Central Pollution Control Board once in six months.
- (v) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
- (vi) Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.
- (vii) Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.
- (viii) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

- (ix) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.

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- (x) The project authorities should inform to the Regional Office located at Bhubneshwar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- (xi) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubneshwar.
- (xii) The Regional Office of this Ministry located at Bhubneshwar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- (xiii) The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhubneshwar, Central Pollution Control Board and State Pollution Control Board.
- (xiv) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.
- (xv) State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.
- (xvi) The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhubneshwar.

3. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.


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5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made thereunder.



(SATISH C. GARKOTI)
Additional Director (S)

Copy to:

1. Secretary, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment, Government of Jharkhand, Secretariat, Ranchi.
3. Secretary, Department of Mines, Government of Jharkhand, Secretariat, Ranchi.
4. Chief Wildlife Warden, Government of Jharkhand, P.O. Doranda, Ranchi.
5. Chief Conservator of Forests, Ministry of Environment & Forests, Regional Office (EZ), A/3, Chandra Shekar, Bhubneshwar-751 023
6. Chairman, Central Pollution Control Board, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
7. Chairman, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), HEC Campus, P.O. Dhurwa, Ranchi - 834004, Jharkhand
8. Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
9. Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
10. District Collector, Latehar District, Jharkhand.
11. EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
12. Monitoring File.
13. Guard File.
14. Record File.